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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/084,787	05/21/1998	SHINICHIROU HARASAWA	FUJH13.010A	5949

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EXAMINER	
HUGHES, DEANDRA M	
ART UNIT	**PAPER NUMBER**
3663	

DATE MAILED: 01/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/084,787	HARASAWA ET AL.	
	Examiner	Art Unit	
	Deandra M Hughes	3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 November 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *15-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. In view of Applicant's amendments (filed 09/21/04), the rejections of office action (mailed 6/21/04) have been withdrawn.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 15 and 18-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In particular, applicants failed to point out and distinctly claim the optical filter device. Applicant claims that the optical filter is "operatively connected to the optical amplifier for passing the first optical input signal, and for ascertaining a level of the optical input signal through the detector; said detector being operatively connected to the optical filter". How can the optical filter pass the first signal AND ascertain a level of the input signal? Does the filter, as is claimed, comprise a filtering device AND a detecting device? Or does the filter comprise only a filtering device?

In the interest of compact prosecution, the Examiner will examine the claim as if the filtering device comprises only a filtering device.

Claim Objections

4. Claim 17 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is

required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

In particular, applicant claims that the "optical filter blocks the exciting light, which exists along with the first optical signal input to the optical filter, to input to the detector". The parent claim 16 claims "blocking an exciting light, which exists along with the first optical signal...said detector being operatively connected to the optical filter...to detect the level of the input signal" (lines 5-8).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 15 (as best as it is understood), 18-19 (as best as they are understood), and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Shimizu (US 5,506,724 filed Sep. 21, 1994).

With regard to claim 15, Shimizu discloses an optical amplifier comprising:

- an input terminal (#1) receiving an optical input signal;
- an optical coupler (#4a) dividing the optical input signal into a first optical signal (towards #23) and a second optical signal (towards #3);

- an optical filter (#9) operatively connected to the optical coupler (#4a) for passing the first optical input signal and for ascertaining a level of the optical input signal through a detector (#10); said detector being operatively connected to the optical filter for receiving the first optical signal passed through the optical filter to detect the level of the optical input signal (the filter #9 is connected to the detector #10); and
- an optical fiber amplifier (#2) formed with erbium (#3 is an EDFA: e.g. see fig. 2) operatively connected to the optical coupler for amplifying the second optical signal with excitation by an exciting light (#8), which is supplied from an output side (via #6) of the optical fiber amplifier.

With regard to claim 18, Shimizu discloses an optical amplifier comprising:

- an optical coupler (#4a) receiving an optical signal (from #7a), which includes an optical signal light and dividing (via coupler #4a) the received light a first optical signal (towards #23) and a second optical signal (towards #3);
- an optical filter (#9) operatively connected to the optical coupler (#4a) for passing the first optical input signal and for ascertaining a level of the optical input signal through a detector (#10); said detector being operatively connected to the optical filter for receiving the optical signal passed through the optical filter to detect the level of the optical input signal (the filter #9 is connected to the detector #10); and

- an optical fiber amplifier (#2) formed with erbium (#3 is an EDFA: e.g. see fig. 2) operatively connected to the optical coupler for amplifying the second optical signal with excitation by an exciting light (#8), which is supplied from an output side (via #6) of the optical fiber amplifier.

With regard to claim 19, the compensation signal source (CSSDC #12a) makes the output of the amplifier constant (col. 9, lines 20-25).

With regard to claim 20, Shimizu discloses an optical amplifier comprising:

- an optical coupler (#4a) dividing an input light into first (towards #9) and second (towards #3) optical lights;
- an optical filter (#9) filtering the first optical light divided by the optical coupler to output a filtered light;
- a detector (#10) operatively coupled to the optical filter detecting the filtered light; and
- an optical fiber amplifier (#3) doped with erbium (col. 8, #31), receiving from the optical coupler and amplifying the second optical light by an excitation light (#8), which is supplied (via #6) from the output side of the optical fiber amplifier.

Claim Rejections - 35 USC § 103

7. Claims 16-17 rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu (US 5,506,724 filed Sep. 21, 1994).

With regard to claim 16, Shimizu does not specifically claim that the optical filter blocks an exciting light. However, Shimizu discloses that the filter (#9) filters part of the

ASE or all of the ASE (col. 8, line 37). Further, Shimizu discloses that the filter can have any band-pass characteristic "as long as the wavelength of the band-pass characteristic is within the gain band of the rare earth doped fiber." (col. 8, lines 37-40). As it is well known in the art and further disclosed by Shimizu, EDFA (1.55 micron band) exciting light is either in the 1.48 micron band or the 0.98 micron band (col. 8, lines 30-35). Consequently, it would have been obvious to one of ordinary skill in the art (e.g., an optical engineer) to conclude that filter (#9) blocks the exciting light because the exciting light (1.48 microns or 0.98 microns) is not in the gain band of the rare earth doped fiber (1.55 micron). This filtering would occur for the advantage of performing high precise gain detection, as is specifically taught by Shimizu (col. 8, lines 42-43).

Claim 17 does not further limit the parent claim. Consequently, claim 17 is addressed by the rejection of claim 16 above.

Claim Rejections - 35 USC § 103

8. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu (US 5,506,724 filed Sep. 21, 1994) in view of Yamane (US 5,764,404 filed July 28, 1995).

Shimizu does not specifically disclose that the excitation light is controlled (via CSSDC #12a) according to the light detected by the detector. However, Yamane teaches controlling a counter-propagating pump via light detection at the input (figure 1, #12 to #2). It would have been obvious to one of ordinary skill in the art (e.g., an optical engineer) to control the pump via an input light detection signal transmitted by a detector for the advantage of Automatic Gain Control.

Response to Arguments

9. Applicant's arguments with respect to claims 15-21 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deandra M Hughes whose telephone number is 703-306-4175. The examiner can normally be reached on M-F, 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H Tarcza can be reached on 703-306-4171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Deandra M Hughes
Examiner
Art Unit 3663